Health Care Financing

Medicare Data System

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Office of Research, Demonstrations, and Statistics

Health Care Financing Medicare Data System

The Health Care Financing Administration (HCFA) was established in March 1977 to combine health financing and quality assurance programs into a single agency. HCFA is responsible for the Medicare program, Federal participation in the Medicaid program, the Professional Standards Review Organization program, and a variety of other health care quality assurance programs.

The mission of the Health Care Financing Administration is to promote the timely delivery of appropriate, quality health care to its beneficiaries—approximately 47 million of the nation's aged, disabled, and poor. The Agency must also ensure that program beneficiaries are aware of the services for which they are eligible, that those services are accessible and of high quality, and that Agency policies and actions promote efficiency and quality within the total health care delivery system.

HCFA's Office of Research, Demonstrations, and Statistics (ORDS) conducts studies and projects that demonstrate and evaluate optional reimbursement, coverage, eligibility, and management alternatives to the present Federal programs. ORDS also assesses the impact of HCFA programs on health care costs, program expenditures, beneficiary access to services, health care providers, and the health care industry. In addition, ORDS monitors national health care expenditures and prices and provides actuarial analyses on the costs of current HCFA programs as well as the impact of possible legislative or administrative changes in the programs.

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Prepared by Irving Goldstein

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Introduction

This publication describes the various components of the Medicare data collection system. The information collected provides the basis of the statistical system designed to measure the effectiveness of the Medicare program. This system, by manipulating, summarizing and combining different types of records, produces a wide variety of files and tabulations for use by management and researchers. Knowledge of the benefits available under Medicare and of the way in which Medicare is administered will contribute to an understanding of the Medicare statistical program. Medicare is administered by the Health Care Financing Administration (HCFA), which also administers Medicaid and other Fedeal health programs. This new agency was formed in March 1977. Before that, the Social Security Administration (SSA) administered the Medicare program. Many functions, including the centralized computer operations, are still performed by SSA for HCFA.

Basic Provisions of Law

The 1965 amendments to the Social Security Act (Title XVIII) established two complementary health insurance programs for the aged—a hospital insurance (HI) plan (Part A) and a supplementary medical insurance (SMI) plan (Part B). The Part A plan provides coverage for hospitalization, stays in skilled nursing facilities (nursing homes), and home health services. The Part B plan provides coverage for physicians' services, outpatient hospital services, home health services and other medical services.

Benefit payments under both programs started July 1, 1966. Federally financed services in skilled nursing facilities began January 1, 1967. These benefits were originally available only to persons age 65 and over. The 1972 amendments to the act established coverage for disabled persons under age 65 and for persons with End Stage Renal Disease (ESRD). Their payments began July 1, 1973.

The payment of HI benefits is geared to a benefit period (or "spell of illness"). A benefit period begins with the first day (not included in a previous benefit period) the individual is furnished inpatient hospital services or skilled nursing services. The first day of a benefit period must occur in a month for which the beneficiary is entitled to HI protection. The benefit period ends after 60 consecutive days during which the beneficiary is neither a hospital inpatient nor a skilled nursing facility inpatient. There is no limit to the number of covered benefit periods the individual may have, as long as entitlement to health insurance continues.

The Part A hospital insurance plan provides inpatient hospital services up to a maximum of 90 days for each benefit period. Beneficiaries pay a deductible for the first 60 days of care, and a

coinsurance amount for each day thereafter for each benefit period. Each beneficiary also has a lifetime reserve of 60 extra days of hospital care beyond the 90 days allowed for each benefit period. The beneficiary, however, pays a portion of the charges for each of the additional lifetime reserve days used.

Each beneficiary is provided up to 100 days of care in a skilled nursing facility (SNF) for each benefit period, but only after a hospital stay of three days or more, and then only if the facility meets certain conditions. The insurance covers the costs of the first 20 days of care, and the beneficiary pays a daily coinsurance rate for the remaining 80 days. These benefits started in 1967. Also covered are up to 100 home health care visits annually, after discharge from a hospital or skilled nursing facility stay of at least 3 days. Effective July 1981 home health coverage under Medicare provides for unlimited visits, and the three day prior stay requirement was eliminated.

The SMI plan (Part B) covers such items as: physician and surgical services in or outside of the hospital; diagnostic X-ray and laboratory tests; radium therapy; ambulance services; surgical dressings; other medical needs; and up to 100 home health care visits each year. Effective July 1981 Medicare provides for unlimited visits, and the $60 Part B deductible was eliminated.

After a beneficiary pays an annual deductible, medical insurance will pay 80 percent of the reasonable charges for covered services for that year. Effective April 1, 1968 the deductible and coinsurance do not apply to services furnished hospital inpatients by physicians in the fields of radiology and pathology. Also, coinsurance does not apply to home health services after 1972. Beginning October 30, 1972 services performed in a laboratory that are billed on an assignment basis may be reimbursed at 100 percent of a negotiated rate not subject to the deductible or coinsurance. Unlike the HI plan, enrollment in the SMI program is voluntary; that is, individuals must sign up and agree to pay a monthly premium as set by law.

Fiscal Intermediaries

Under the HI program, *intermediaries* are selected by each institutional provider (hospitals, skilled nursing facilities, home health agencies) to act as the link between the provider and the Health Care Financing Administration. A vital role of the intermediaries is to review and pay claims for the costs of providing care to the beneficiaries. The intermediary makes these payments to providers for covered items and services on the basis of reasonable cost determinations, and assists in the application of safeguards against unnecessary use of covered services.

Under the SMI program, insurance *carriers* are selected by the Secretary of Health and Human Services. The principal functions of these carriers are: to determine the reasonable charges in their respective areas for each medical care service paid for under the program; and to review and pay claims to or on behalf of beneficiaries for the services provided.

The Health Insurance Master File (HIM)

The Health Insurance Master File (HIM) identifies each aged and disabled person entitled to Medicare benefits and indicates entitlement to HI benefits, SMI benefits or both. Data on age, sex, race and place of residence are obtained from this file.

For each person eligible for Medicare benefits, HCFA maintains a record in the HIM file. Identification of each record is based on the person's Health Insurance Claim Number (HIC). This is either the Social Security or Railroad Retirement Board Claim Number.

The HIM file is updated daily for current maintenance and utilization information. Maintenance data consist of: beneficiary enrollments and terminations; cross-reference of claim numbers; changes of address; and other changes which are received from the SSA and the Railroad Retirement Board master beneficiary record (MBR) systems. Utilization data consist of: notices of hospital admissions; SNF admissions; Part B deductible queries; provider billing records from intermediaries; and payment records from carriers. Both the utilization and maintenance data are matched to the HIM for updating as part of HCFA's administrative processes. (See Figure 1.)

Hospital Insurance Claims Process

The HCFA Central Office HI claims process operation (Figure 2) is essential to provide current benefit and use information to intermediaries. It also monitors intermediary payment to institutional providers. When a beneficiary is hospitalized, the participating provider notifies the intermediary of the admission. The intermediary then transmits the information as a query to HCFA to check the beneficiary's status.

HCFA's Utilization Query and Reply Operations prepare the provider admission notices and other queries for subsequent processing in the update operations, and also prepare replies (from the update) for transmittal back to intermediaries. Interim and final bills completed by hospitals, skilled nursing facilities and home health agencies are submitted to the intermediary. Based on this information and the information furnished by HCFA in reply to an earlier query, the intermediary certifies payment to the provider.

The intermediary processes the information from the bills to magnetic tape and forwards them to HCFA. The taped bill records are then processed through various operations in HCFA.

Consistency Editing

This operation balances the number of bills and reimbursement amounts to the intermediary's total to establish acceptable tape totals for use through the remainder of the automated processing. A computer edit program identifies all invalid data and inconsistencies

FIGURE 1
Health Insurance Master Beneficiary Record Maintenance

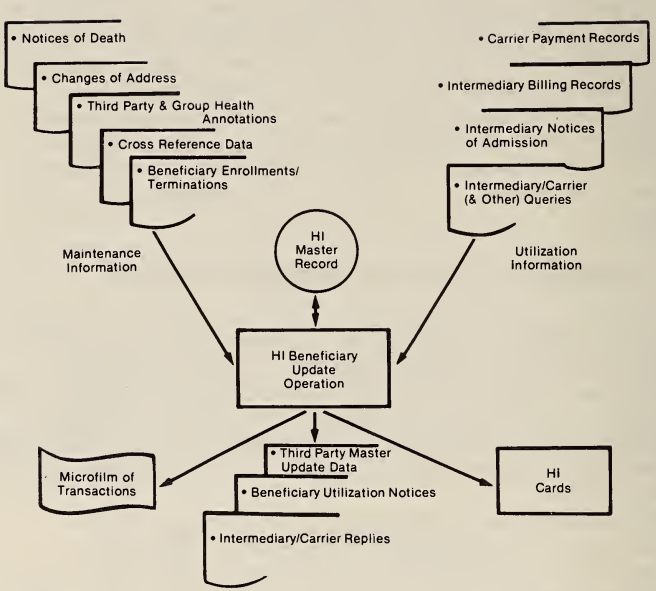
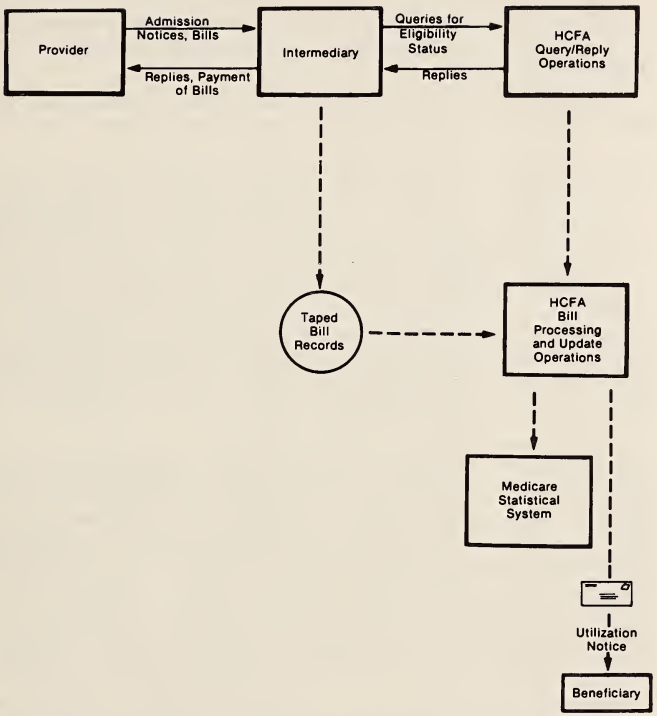


FIGURE 2
Hospital Insurance Claims Process



for each bill. Invalid data include such items as a month indicated by a number greater than 12, more than 60 lifetime reserve days used, and so forth.

The consistency edits do not compare data on the bills to information in HCFA records. These edits are used as a screen to check the consistency of data on the bill itself.

Utilization Editing

Once the consistency edits have been applied, the bills go through the utilization editing program. In this program, the bill data on the tape is compared to the data in HCFA's Health Insurance Master Record.

The bills in the batch which failed the consistency edits are screened in the utilization program for only three items:

- Name and claim number which match the master record,
- Eligibility to Part A or Part B benefits during the billing period,
- A matching open item on HCFA's Health Insurance Master Record. "Open" items are created from admission notices, and are "Closed" by discharge bills or deletion queries.

Bills which have passed the consistency edits are processed completely through the utilization editing program, and are either posted or rejected. The detailed edits are described in Section 3830 of the Part A Intermediary Manual. This manual is maintained by the Bureau of Program Operations, HCFA.

Rejected bills are returned to intermediaries for correction and reinstatement (or voiding). Both bills and batches are held in the control system until their processing is completed or until they are deleted. Reports of batch processing, batch completion, and of outstanding returned bills are periodically sent to intermediaries to use in reconciling batches submitted and in checking on bills to be corrected and returned to HCFA. Records of the bills passing initial edits are passed on to the Beneficiary Master Update operation, which records the transactions on the individual's HI Master record, and generates records for updating the Provider Master File, and to a history record of completed billing transactions. The update operation will also generate a beneficiary utilization notice where an interim or a final (discharge) bill is processed for inpatient services or home health visits.

Part A inpatient bill information is processed on an "in sequence" basis. This sequence is determined from the billing dates "from" and "to," present on each bill. Bills are processed in "from" date sequence within a benefit period.

A bill not related to a preceding open item (admission) will not be processed until the final bill for that open item is processed. All unprocessed bills are controlled so that any determination of a

benefit period takes these unprocessed items into account, along with already processed or recorded items. (The HI Master record carries up to five of the most recent benefit periods in the beneficiary's record.) HCFA's reply to an intermediary admission notice or query shows benefit days remaining and deductibles to be met as of the last recorded date of discharge, or as of the last action, when there is an open item and interim billing has been received.

Medical Insurance Claims Process

Part B outpatient bills and Part B home health agency bills are submitted from intermediaries, while medical Payment Records are submitted from carriers. The processing procedure (Figure 3) differs from that for Part A bill records because, unlike Part A, Part B benefits are not tied to a benefit period with a limited number of days of care and varying coinsurance amounts. Under Part B, only physical therapy, psychiatric services and home health visits have an annual limitation on benefits payable.

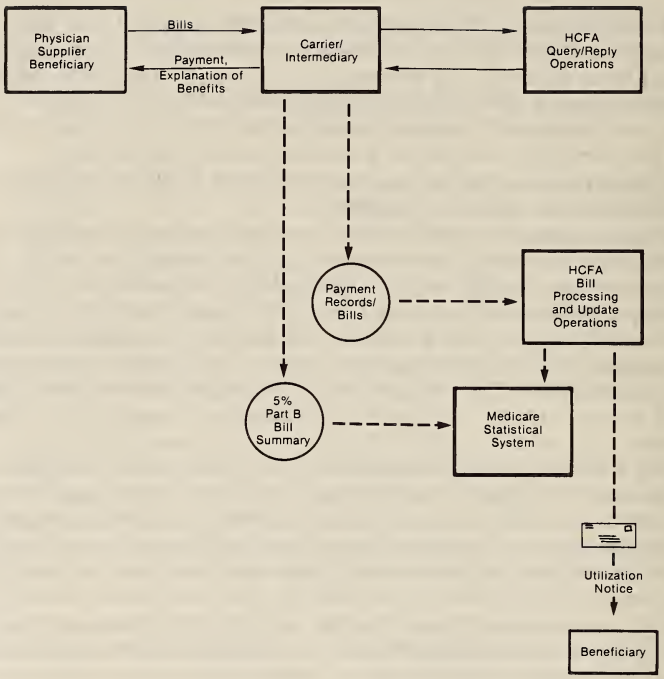
Claims for payment of Part B benefits are submitted to the carrier or intermediary by beneficiaries or the supplier of services (such as physicians). When the carrier or intermediary queries HCFA on the beneficiary's deductible status, the utilization query/reply operations handle the transaction similarly to Part A queries. In addition, Part B queries update the Part B deductible, and record physical therapy and psychiatric expenses. The carrier or intermediary determines and makes payment to the claimant, taking into account the beneficiary's deductible status.

Carriers submit Payment Records for all physician and supplier claims for which payment is made. These Payment Records are batched and transmitted to HCFA, where they are edited, then matched against the HI Master Record to check for beneficiary entitlement and, if appropriate, to record physical therapy or psychiatric services. A listing of rejected records is returned to carriers for corrections and the records are held in a suspended record file. As records are corrected and returned, they are deleted from this file. In addition, another operation controls the batches of Payment Records and provides statistical reports on bill processing by each carrier.

The Explanation of Medicare Benefits (EOMB) is an important function of the carriers, and is used to notify each claimant for Part B benefits of the action taken on his claim. Section 7000 of the Medicare Carrier's Manual provides an in-depth description of the purpose and contents of the EOMB. This manual is maintained by the Bureau of Program Operations, HCFA.

Carriers send HCFA monthly reports of monies paid during the month for SMI services. Batches of Payment Records are matched against these carrier financial reports to determine if submitted records of payments by carriers balance HCFA's reimbursement to them for Part B payments made. HCFA then reconciles any differences.

FIGURE 3
Medical Insurance Claims Process



HCFA does not receive bills for Part B services rendered by certain Group Practice Prepayment Plans (GPPP). These groups deal directly with HCFA and are reimbursed on a *per capita* cost basis. An attempt was made early in the statistical system to measure use by having these direct dealing GPPP's submit forms for each service rendered. However, this procedure proved inadequate and is no longer operational. Deductibles for GPPP members (about 300,000) are updated by allocating one-twelfth of the deductible each month.

Part B Bill Summary Record—5 Percent Sample

A separate Medical Insurance statistical system was implemented July 1, 1975, to provide timely Part B data on the amount, type and cost of health care services. Carriers are required to prepare a Part B Bill Summary Record for each bill falling within a 5 percent sample for services incurred after December 31, 1974.

The Summary Record is prepared from bills submitted to the carriers. Records are based on the line items for each bill used by the carrier as input data in the preparation of the reasonable charge determinations, or in preparing the EOMB regardless of the deductible status of the beneficiary.

One Summary Record is prepared for each sample bill. If similar services are reported more than once on a bill, data are aggregated based on type and place of service. If services on a bill were performed in over-lapping years, separate Summary Records are prepared for each year.

After the Summary Records are prepared, carriers process all such records through an edit program provided by HCFA. This program checks consistency of the data and provides a report of the extent of errors. Carriers are expected to correct these errors before accumulating and submitting their monthly Summary Records to HCFA.

The Office of Statistics and Data Management in HCFA receives all Summary Records directly and processes them through an edit program similar to the one used by the carriers. Tapes containing excessive errors are returned to the carrier for correction.

Provider of Service Master File

Institutional providers of service (hospitals, SNFs, and so forth) participate in the Medicare and Medicaid programs through a formal certification procedure which examines the institution's qualifications

for furnishing care for the beneficiaries of the two programs. The certification is done by State agency according to HCFA guidelines and regulations. The qualifications are reviewed annually, following the same procedure.

Source Documents and File Content

The State agency surveyor applies various criteria to measure an institution's capability of providing acceptable care. At the same time, provider characteristics such as staffing, number of beds and services provided are recorded on a forms package. This forms package is divided into two sets. The first set, called the Survey Report Form (SRF), contains the criteria and the decisions of a surveyor in applying the criteria to the institution being evaluated. The second set comprises the source documents for the Provider of Services Master (POS) file, and includes the Certification and Transmittal Form (C&T) and the application form. The C&T Form records: address information; intermediary tie-in; and the certification decisions and certification approval dates of the State agency and the HCFA regional office. The application form contains the provider characteristics (type, control, staff, services, and so forth).

Information Flow and Update Mechanism

When the on-site survey by the State agency surveyor has been completed, it is reviewed and approved by the State agency and forwarded to the HCFA regional office for review and final certification by the regional office. The reviewer makes sure that all forms are present and properly prepared. The data items that are prescribed for entry into the data base are then keyed to magnetic disk. The first group of consistency checks are applied as the data are entered. Incorrect entries alert the operator via a display screen (CRT) and for certain essential fields prevent further entry of the forms package in question until corrections are made. Those forms packages successfully keyed to the disk are batched daily in the regional office and transmitted via telephone lines to central office. A transaction record is built in central office by combining all the POS and SRF data elements into a single record for each provider of service. This record is next passed through a more extensive series of consistency checks for accuracy and completeness. The fully edited record is then entered into the provider of service master file.

The Medicare Statistical System

The primary objective of the HI Program's Medicare statistical system is to provide data required to measure and evaluate the operation and effectiveness of the two parts of the program. The benefit payment operations furnish the means of obtaining extensive, systematic, and continuous information about the amount and kind of hospital and medical care services used by Medicare beneficiaries, as well as the costs of such services. The applications submitted by hospitals, skilled nursing facilities and home health agencies to participate in the Medicare program provide data on the characteristics of such providers of service. The claim number that is assigned to each beneficiary serves as the link between the various services used under the program and the demographic characteristics of each individual recorded in the enrollment files.

The data-collection system has two inherent characteristics that greatly determine the scope, detail, and flexibility of the available data. First, data are collected and maintained on an individual basis so that the beneficiary and his medical experience under the program form the basic unit. Second, records for each bill paid are maintained on a centralized basis. Except for intermediary operating statistics such as those relating to workloads, time lags, costs, and the like, all program statistics are centrally prepared.

The statistical system is based on three record systems which are byproducts of the Health Insurance Administrative operations. These three systems are:

- *The Health Insurance Master Enrollment Record*—This record identifies each person (aged and disabled) enrolled for Medicare. Data describing the characteristics of the Medicare enrolled population are obtained from this file. This file also serves as the basis for obtaining Medicare use rates. Approximately 27½ million aged beneficiaries and 3 million disabled beneficiaries are currently entitled to Medicare benefits.
- *The Provider of Services Record*—This file contains information on every hospital, skilled nursing facility, home health agency, independent laboratory and other institutional providers which must apply for participation in the program. Each is assigned a distinct provider number. Approximately 9,000 hospitals, 29,000 SNFs, 3,000 HHAs, 3,500 independent laboratories and 1,600 other types of facilities that participate in Medicare or Medicaid, or both, are on this file.
- *The Utilization Record*—Part A and Part B billing information is maintained centrally, and these records are tabulated monthly, quarterly, and annually to measure the use of Medicare services. Currently, the annual volume of Medicare bills processed is as follows:

Inpatient hospital	11,000,000
SNF	1,000,000
Outpatient	25,000,000
HHA (A and B)	3,300,000
Payment Records (physicians and supplies)	126,000,000

Since each record contains both the beneficiary's claim number and the provider's number, these records can be readily matched to the Enrollment and Provider records. By this process we can create statistical records that contain all the available information needed for tabulation from the three files. (Note: The information in these files is confidential and used for administrative and statistical purposes only. The release of any information from these files is subject to the Privacy Act and other Federal Government rules and regulations.)

In addition to the one hundred percent utilization files described above, there are sample files for which diagnostic and surgery codes are obtained centrally at HCFA. These sample files are summarized in the following table:

Medicare Sample Sizes for Diagnosis and Surgical Procedure Coding

Type of Medicare Benefit	Billing Form	Sample Size
Inpatient Hospital	HCFA-1453	20%
Skilled Nursing Facility (SNF)	HCFA-1453	100%
Medical & Other Health Services (Outpatient)	HCFA-1483	5%
Home Health Agency—Part A and Part B	HCFA-1487	40%

Diagnostic Coding for Services thru 1970 — ICDA-7
Diagnostic Coding for Services 1971-1978 — ICDA-8
Diagnostic Coding for Services after 1978 — ICD-9-CM
Surgical Procedure Coding for years 1966-1978 — CPT
Surgical Procedure Coding for years after 1978 — ICD-9-CM Volume 3

The information coded on each type of bill is as follows:
Inpatient Hospital—Principal diagnosis and principal surgical procedure (if any).
Inpatient SNF—Admitting diagnosis.
Outpatient Hospital—Nature of illness and surgical procedure (if any).
Home Health Agency (A or B)—Diagnosis.

HCFA also codes an indication (yes, no) of whether additional diagnoses or surgical procedures are indicated on the bill.

Before 1977, most intermediaries submitted hard copy bills to SSA, and coding was done manually. By 1977, almost all intermediaries were submitting claims to HCFA on magnetic tape. It became impractical to continue receiving hard copy bills for the sample claims. Therefore, all intermediaries were instructed to key the narratives from sample bills and report the information to HCFA as part of the claims tape record. The first 45 characters of diagnostic information and the first 41 characters of surgical information are currently reported.

HCFA codes the narratives using a process known as the Automated Medical Coding System (AMCS). This system consists of computer programs which match the narratives from the bills to a "dictionary" of pre-coded narratives. Where there is a match, the code is applied to the record. Narratives that are not matched to the dictionary are sent to a staff of trained coders for manual coding. HCFA updates the dictionary periodically by adding new narrative terms based on usage.

Since the development of the Medicare Statistical System, there have been many changes in the ability of hospitals to provide coded medical data, in the manner in which fiscal intermediaries collect and process claims data from providers, and in the uses made of the statistical data. Most hospitals code diagnoses and procedures using the clinical modification of the ninth revision of the International Classification of Diseases (ICD-9-CM). These codes are used, for example, on hospital discharge abstracts to generate disease and operational indices; for reseach purposes; for reporting to rate setting agencies; and for other applications specific to each provider. At the same time, the fiscal intermediaries are encouraging providers to submit machine readable claims data to them and, as previously noted, all fiscal intermediaries now submit paid claims data to HCFA on tape.

Institutional providers will be permitted, with the intermediaries' concurrence, to report codes instead of narratives beginning in 1981. These codes must be the full ICD-9-CM codes and the intermediary must transmit to HCFA the original codes reported. Otherwise, the intermediary must transmit the original narratives as reported by the provider to HCFA.

Further information on the Medicare Statistical files and data produced can be obtained by contacting the Director, Office of Statistics and Data Management, ORDS, HCFA, Room 2210 Meadows East Building, Baltimore, Maryland 21235.

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References

Krute, Aaron; Dikoff, Newton; and Scharff, Jack, "Statistical Elements of Medicare," Public Health Reports, September 1968, Pp. 352-358.

"The Health Insurance System—A Narrative and Pictorial Description," Social Security Administration, OAS Pub No. 010 (11-75).

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